IN THE CLAIMS:

MARKED-UP VERSION OF THE AMENDED CLAIMS

(Version with markings to show changes made)

1. (currently amended) Silicon substrate with positive etching profiles having a defined slope angle $\underline{\beta}$, obtained by plasma etching of the silicon substrate in a plasma etching plant with a generated plasma, wherein the silicon substrate is covered by a mask and the following steps are performed

a) iso-tropic plasma etching of the silicon substrate, wherein [[the]] <u>a</u> mask under etching u is approximately equal to [[the]] <u>an</u> etching depth A_t,

b) enlargement of the etching depth A_t by aniso-tropic etching with alternating, successively following plasma etching steps and polymerization steps, wherein the mask under etching remains constant and wherein [[the]] <u>an</u> etching front obtains a new course, and wherein [[the]] side walls of <u>an etched</u> structure are covered with a polymer with this step,

c) removal of the polymer at the side walls of the etched structure, and

d) repeating the steps a) through c) until [[the]] a predetermined etching profile with [[the]] a pregiven etching depth A_t has been reached.

2. (currently amended) Method for plasma etching while using a plasma etching plant for generating positive etched profiles with defined slope angle in a silicon substrate ~~substrates~~, wherein this silicon substrate is covered with a mask and wherein

a) the silicon substrate is initially iso- tropically etched with a plasma such that [[the]] a mask under etching u is approximately equal to [[the]] an etching depth A_t,

b) following thereto the etching depth becomes enlarged by aniso-tropic etching by way of a plasma with alternatingly successively following plasma etching steps and polymerization steps, such that the mask under etching

remains constant and [[the]] an etching front obtains a new course, wherein the side walls of the structure are covered with a polymer in this step,

c) thereupon the polymer is removed at the side walls of the structure, and

d) the steps a) through c) are repeated as many times until the predetermined etched profile with [[the]] a defined slope angle β and [[the]] a pregiven etching depth A_t has been reached.

3. (original) Method according to claim 2 characterized in that the silicon substrate is iso-tropically etched in a SF_6 - plasma.

4. (currently amended) Method according to claim 2 characterized in that [[the]] an enlargement of the etching depth is performed by an aniso-tropic etching process, wherein [[the]] pressures for [[the]] process gases are from 1.0 to 5.3 Pa and [[the]] interval times amount to 3 to 12 seconds in the aniso-tropic etching process.

5. (currently amended) Method according to claim 2 characterized in that [[the]] a removal of the polymer is performed by way of an O_2 - plasma.

6. (previously presented) Method according to claim 2 characterized in that the slope angle β in the etching profile is determined by adjustment of a time ratio between the steps a) and b).

7. (original) Method according to claim 6 characterized in that the step b) is prolonged and that the time ratio is therefrom determined.

8. (original) Method according to claim 6 characterized in that the step a) is prolonged and that the time ratio is therefrom determined.

9. (currently amended) A method for plasma etching comprising the steps:

covering a silicon substrate with a mask, ~~and wherein~~

initially iso-tropically etching the silicon substrate with a plasma such that [[the]] a mask under etching u is approximately equal to [[the]] an etching depth A_t,

enlarging the etching depth following thereto by aniso-tropic etching by way of a plasma with alternatingly successively following plasma etching steps and polymerization steps, such that the mask under etching remains constant and the etching front obtains a new course, wherein [[the]] side walls of [[the]] a structure are covered with a polymer in this step,

removing thereupon the polymer at the side walls of the structure, and

repeating the "initially iso-tropically etching" step, the "enlarging" step, and the "removing" step as many times until [[the]] a predetermined step etched profile with a defined slope angle β and a pregiven etching depth A_t has been reached in a plasma etching plant for generating positive etched profiles with defined slope angle in silicon substrates.

10. (previously presented) The silicon substrate according to claim 1 wherein the steps a) through c) are repeated as many times until the predetermined etched profile with the defined slope angle β has been reached.

11. (new) The silicon substrate according to claim 10 wherein the silicon substrate has a positive etched profile and wherein the slope angle β of the

side wall of the etched structure is in a region of between 60 degrees and 88 degrees.

12. (new) A silicon substrate with a positive etched profile, obtained by plasma etching of a silicon substrate in a plasma etching plant with a generated plasma, wherein a side wall of an etched structure has a defined slope angle β, and wherein a predetermined etched profile has reached a pregiven etching depth A_t, wherein the silicon substrate is covered by a mask and wherein the following steps are performed

a) iso-tropic plasma etching of the silicon substrate, wherein a mask under etching u is approximately equal to an etching depth A_t,

b) enlarging the etching depth A_t by aniso-tropic etching with alternating, successively following plasma etching steps and polymerization steps, wherein the mask under etching u remains constant and wherein an etching front obtains a new course, and wherein a side wall of an etched structure is covered with a polymer,

c) removing the polymer at the side wall of the etched structure, and

d) repeating the steps a) through c) until a predetermined etching profile with a pregiven etching depth A_t has been reached.

13. (new) The silicon substrate according to claim 12 wherein the silicon substrate has a positive etched profile and wherein the slope angle β of the side wall of the etched structure is in a region of between 60 degrees and 89 degrees.